

CLAIMS

- 1 A control system comprising: a plurality of input devices; a plurality of remote output devices; a plurality of dedicated connections, wherein each one of the plurality of output devices is connected to one of the plurality of input devices by an associated one of the plurality of dedicated connections; and a digital data network interconnecting the plurality of input devices and the plurality of remote output devices, wherein each output device is operable to use a network address dependent upon a value received via its dedicated connection.
- 2 A control system as claimed in claim 1, wherein each output device permanently stores a plurality of network addresses and is operable to select one of a plurality of permanently stored network addresses in dependence upon a value received via its dedicated connection.
- 3 A control system as claimed in claim 2, wherein each output device is operable to select one of the plurality of permanently stored network addresses in dependence upon an identity between a value received via its dedicated connection and one of a plurality of values.
- 4 A control system as claimed in claim 3, wherein each output device receives the plurality of values as a value for each of the plurality of input devices via the digital data network.
- 5 A control system as claimed in claim 4, wherein the values for each of the plurality of input devices are received in a single data packet.
- 6 A control system as claimed in claim 1 wherein each output device is arranged to compare a value received via its dedicated connection with at least first and second values received via the digital data network and to use a first address if the value received via its dedicated connection is the same as the first value

received via the digital data network and to use a second address if the value received via its dedicated connection is the same as the second value received via the digital data network.

- 7 A control system as claimed in claim 6, wherein the first and second values are received in a data packet addressed to the plurality of output devices.
- 8 A control system as claimed in claim 6, wherein the plurality of remote output devices include a port aero-engine and a starboard aero-engine and the plurality of input devices include a first thrust control for a port engine and a second thrust control for a starboard aero-engine.
- 9 A control system as claimed in claim 8, wherein the plurality of dedicated connections include a first dedicated connection for providing the thrust control setting from the first thrust control to the port engine and a second dedicated connection for providing the thrust control setting from the second thrust control to the starboard engine.
- 10 A control system as claimed in claim 1 wherein each output device is arranged to compare a value received via its dedicated connection with at least first, second, third and fourth values received via the digital data network and to use a first address if the value received via its dedicated connection is the same as the first value received via the digital data network, to use a second address if the value received via its dedicated connection is the same as the second value received via the digital data network, to use a third address if the value received via its dedicated connection is the same as the third value received via the digital data network and to use a fourth address if the value received via its dedicated connection is the same as the fourth value received via the digital data network.
- 11 A control system as claimed in claim 10, wherein the first, second, third and fourth values are received in a data packet addressed to the plurality of output devices.

- 12 A control system as claimed in claim 10, wherein the plurality of remote output devices include a outer port aero-engine, an inner port aero-engine, an inner starboard aero-engine and an outer starboard aero-engine and the plurality of input devices include a first thrust control for an outer port aero-engine, a second thrust control for an inner port aero-engine, a third thrust control for an inner starboard aero-engine and a fourth thrust control for an outer starboard aero-engine.
- 13 A control system as claimed in claim 12, wherein the plurality of dedicated connections include a first dedicated connection for providing the thrust control setting from the first thrust control to the outer port engine, a second dedicated connection for providing the thrust control setting from the second thrust control to the inner port engine, a third dedicated connection for providing the thrust control setting from the third thrust control to the inner starboard engine, and a fourth dedicated connection for providing the thrust control setting from the fourth thrust control to the outer starboard engine.
- 14 An aero-engine system comprising: a first input for receiving a dedicated connection to a first thrust control device; an interface for communicating with a digital data network connected to a plurality thrust control devices including the first thrust control device; and network control means for controlling the reception and transmission of data packets via the digital data network and operable to use a network address dependent upon a value received via the first input.
- 15 An aero-engine as claimed in claim 14, wherein the network control means is arranged to use a network address dependent upon an identity between a value received via the first input and a value received via the interface.
- 16 An aero-engine as claimed in claim 14, wherein the network control means is arranged to use a network address dependent upon which of a plurality of thrust

settings, received the interface, corresponds to a thrust setting received via its input.

- 17 An aero-engine system as claimed in claim 16, further comprising a memory that permanently stores a plurality of network addresses, wherein the network control means is operable to select one of the plurality of permanently stored network addresses in dependence upon which of a plurality of thrust settings, received in a data packet via the interface, corresponds to a thrust setting received via its input.
- 18 A method of configuring a networked aero-engine comprising the steps of: providing a network thrust setting for each one of a plurality of engines to the aero-engine via a digital data network; providing a dedicated thrust setting to the aero-engine via a dedicated connection; and automatically assigning a network address, at the aero-engine, in dependence upon which one of the network thrust settings corresponds to the dedicated thrust setting.
- 19 A method of configuring networked aero-engines comprising the steps of: setting the thrust controls for the aero-engines to a predetermined configuration in which each thrust control has a different setting; informing each of the aero-engines using a digital data network of the configuration of the thrust controls; and automatically assigning a network address, at an aero-engine, in dependence upon the thrust setting indicated for that engine by a dedicated connection and the configuration of the thrust controls.
- 20 A control system comprising: a plurality of input devices; a plurality of remote output devices; a plurality of dedicated connections, wherein each one of the plurality of output devices is connected to one of the plurality of input devices by an associated one of the plurality of dedicated connections; and a digital data network interconnecting the plurality of input devices and the plurality of remote output devices, wherein each output device is operable to detect a digital network configuration error by comparing a value of a parameter received via its

dedicated connection with the value of the same parameter received via the digital data network.

- 21 An aero-engine system comprising: a first input for receiving a dedicated connection to a first thrust control device; an interface for communicating with a digital data network connected to a plurality thrust control devices including the first thrust control device; and network control means for controlling the reception and transmission of data packets via the digital data network and operable to detect a digital network configuration error by comparing a value of the thrust setting received via its dedicated connection with the value of the thrust setting received via the digital data network.